

Amendment to the Claims

1 (Currently Amended). A WideBand cross-connect system comprising:

at least one SONET add/drop multiplexer being outfitted so as to support SONET unidirectional, path-switched rings protection with Payload Defect Indicator - Path codes;

a working WideBand switch fabric coupled to said at least one SONET add/drop multiplexer, said working switch fabric receiving a working signal from a first interface on said at least one SONET add/drop multiplexer, said working signal and working payload, said working switch fabric switching said working signal so as to generate a working switched signal and to generate a working Payload Defect Indicator - Path code in response to monitoring for equipment failures and working switched payload, and providing said working switched signal to a second port on said at least one SONET add/drop multiplexer;

a protect WideBand switch fabric coupled to said at least one SONET add/drop multiplexer, said protect switch fabric receiving a protect signal from a third interface on said at least one SONET add/drop multiplexer, said protect signal and protect payload, said protect switch fabric switching said protect signal so as to generate a protect switched signal and to generate a protect Payload Defect Indicator - Path code in response to monitoring for equipment failures and protect switched payload, and providing said protect switched signal to a fourth port on said at least one SONET add/drop multiplexer;

wherein said at least one SONET add/drop multiplexer operates as an input/output interface to the working and protect WideBand switch fabrics and selects between said working switched payload and said protect switched payload to send to a client based upon said working Payload Defect Indicator - Path code and said protect Payload Defect Indicator - Path code.

2 (Original). A WideBand cross-connect system as in claim 1, wherein said at least one SONET add/drop multiplexer comprises a single SONET add/drop multiplexer.

3 (Original). A WideBand cross-connect system as in claim 1, wherein said at least one SONET add/drop multiplexer comprises a plurality of SONET add/drop multiplexers.

4 (Original). A WideBand cross-connect system as in claim 3, wherein said first port and said third port are on different SONET add/drop multiplexers of said plurality of SONET add/drop multiplexers.

5 (Currently Amended). A method of providing equipment protection in a cross-connect system comprising the steps of:

accepting an input client signal, said input client signal comprising payload, in at least one SONET add/drop multiplexer;

sending said payload to a working and a protect switch fabric;

switching said payload and generating said Payload Defect Indicator - Path codes in each of said working and protect switch fabrics in response to monitoring for equipment failures toward said at least one SONET add/drop multiplexer;

receiving switched payload and said Payload Defect Indicator - Path codes from each of said working and protect switch fabrics at said at least one SONET add/drop multiplexer;

analyzing said Payload Defect Indicator - Path codes and selecting said switched payload from either said working or said protect switch fabric as a working client payload based upon said analysis.

6 (Previously Presented). The method of providing equipment protection as in claim 5, wherein said Payload Defect Indicator - Path codes comprise a working Payload Defect Indicator - Path code and a protect Payload Defect Indicator - Path code and said analysis comprises comparing said working Payload Defect Indicator - Path code and said protect Payload Defect Indicator - Path code to determine which of said working Payload Defect Indicator - Path code and said protect Payload Defect Indicator - Path code indicates a less defective path.

7 (Original). The method of providing equipment protection as in claim 5, further comprising a step of outputting a SONET signal comprising said working client payload.

8 (Previously Presented). The method of claim 5, wherein the working switch fabric and the protect switch fabric are Wideband switch fabrics.

9 (New). The method of claim 5, wherein generating said Payload Defect Indicator - Path (PDI-P) codes in each of said working and protect switch fabrics toward said at least one SONET add/drop multiplexer, comprises:

monitoring by each of said working and protect switch fabrics for equipment failures;  
in response to a detected equipment failure, providing PDI-P codes by the switch fabric detecting an equipment failure to signal a presence of the equipment failure.

10 (New). The method of claim 9, wherein monitoring by each of said working and protect switch fabrics for equipment failures comprises monitoring for equipment failures that affects said switched payload.

11 (New). The method of claim 10, wherein providing PDI-P codes by the switch fabric detecting an equipment failure to signal a presence of the equipment failure further comprises providing PDI-P codes to signal a quantity of affected path failures in said switched payload.

12 (New). A cross-connect system comprising:

a working switch fabric coupled to a first and a second working switch interface, wherein the working switch fabric is operable to:

- receive a working signal from the first working switch interface;
- monitor for equipment failures that affect the working signal;
- generate a working switched signal;
- generate a working Payload Defect Indicator - Path (PDI-P) code in response to monitoring for equipment failures; and
- providing the working switched signal with the working PDI-P code to the second working switch interface; and

a protect switch fabric coupled to a first and a second protect switch interface, wherein the protect switch fabric is operable to:

- receive a protect signal from the first protect switch interface, wherein the protect signal includes same payloads as the working signal;
- monitor for equipment failures that affect the protect signal;
- generate a protect switched signal;
- generate a protect Payload Defect Indicator - Path (PDI-P) code in response to monitoring for equipment failures; and
- providing the protect switched signal with the protect PDI-P code to the second working switch interface.

13 (New). The cross-connect system of claim 12, wherein the working switched signal and the protect switched signal are selected based upon comparison of the working PDI-P code and the protect PDI-P code.